AS09-01 - IMPACTS OF NEUROSCIENCE ON RE-DEFINITION OF MENTAL DISORDERS: A NOVEL EPISTEMOLOGY

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We now know that a single gene mutation may present with multiple phenotypes, and *vice versa*, that a range of genetic abnormalities may cause a single phenotype. As a result, our traditional approach to determining disease nosology - eliciting symptoms and signs, creating clusters of like individuals and then defining a disease on those criteria - though it has served medicine and therapeutics well in the last century and a half, is now outdated. Under that traditional model, the collection of data is subjective, depending as it does on patient-doctor interactions, and that may be why it has not generated fundamental breakthroughs in our understanding of the pathophysiology of psychiatric disease.
What lies ahead? It is time to radically overhaul our epistemological approach to brain disease. We now know a great deal about brain structure and function. From genes, through functional protein expression, to cerebral networks and functionally specialised areas defined *via* physiological cell recording and microanatomy, we have accumulated a mass of knowledge about the brain that defies easy interpretation. Advances in information technologies, from supercomputers to distributed and interactive databases, now make integration of very large and diverse datasets and advanced data-led analysis possible. This is the new nosology, which we must strive to refine to progress understanding of psychiatric brain disease.

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